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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/706,217	08/30/96	BERG R	29615/DAF/B4

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EXAMINER

WONG, E

ART UNIT	PAPER NUMBER
1102	10

DATE MAILED: 02/19/98

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**08/706,217**

Applicant(s)  
**Berg et al.**

Examiner  
**Edna Wong**

Group Art Unit  
**1102**



☐ Responsive to communication(s) filed on \_\_\_\_\_.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 11-52 is/are pending in the application.

Of the above, claim(s) 45-52 is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 11-44 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 6 and 8

☒ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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***Election/Restriction***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims **45-52**, drawn to an apparatus for generating an aerosol encapsulant, classified in class 118, subclass 716.
- II. Claims **11-44**, drawn to a method for collecting particulates from a process area and a method for removing hazardous particles from a space enclosed by walls, classified in class 588, subclass 2.

The inventions are distinct, each from the other because of the following reasons: Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by another and materially different apparatus such as an apparatus in which a liquid is condensed onto a surface and the particles are caused to stick to the surface.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination

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purposes as indicated is proper.

During a telephone conversation with David Plumley on February 10, 1998 a provisional election was made without traverse to prosecute the invention of Group II, claims **11-44**. Affirmation of this election must be made by applicant in responding to this Office action. Claims **45-52** are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(h).

### ***Specification***

The disclosure is objected to because of the following informalities:

page 5, line 23, the word "Can" should be amended to the word -- can -- (lowercase).

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page 5, line 24, the word "to" should be amended to the words -- into the --.

page 8, line 18, the word "to" should be amended to the words -- into the --.

page 13, line 11, it is unclear what element is "four" in the material lead-zirconite-titanite-four.

Appropriate correction is required.

### ***Claim Objections***

Claims **12 and 29** are objected to because of the following informalities:

Claim 12, line 3, the word -- the -- should be inserted after the word "of".

Claim 29, line 5, the word -- the -- should be inserted after the word "of".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

Claims **11-44** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention.

Claim 11, line 4, "a capture liquid" is vague and indefinite.

Claim 18, lines 3-4, "the exhaust stream" lacks antecedent basis.

Claim 20, line 2, it is unclear if "a capture liquid" is the same liquid as that recited in claim 11, line 4, or a different liquid.

Claim 22, line 2, it is unclear if "a capture liquid" is the same liquid as that recited in claim 11, line 4, or a different liquid.

Claim 25, line 3, it is unclear if "a capture liquid" is the same liquid as that recited in claim 11, line 4, or a different liquid.

Claim 27, line 2, it is unclear if "a capture liquid" is the same liquid as that recited in claim 11, line 4, or a different liquid.

Claim 28, line 3, it is unclear if "a capture liquid" is the same liquid as that recited in claim 11, line 4, or a different liquid.

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Claim 32, line 7, the words "sufficiently small" are vague and indefinite.

Claim 33, line 2, it is unclear if "a liquid" is the same liquid as that recited in claim 32, line 4, or a different liquid.

Claim 34, line 2, it is unclear if "a liquid" is the same liquid as that recited in claim 32, line 4, or a different liquid.

Claim 35, line 2, it is unclear if "a liquid" is the same liquid as that recited in claim 32, line 4, or a different liquid.

Claim 44, lines 2-3, "the reservoir below the surface of the liquid" lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11, 20, 22, 26- 27 and 29 are rejected under 35 U.S.C. 102(b) as being

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anticipated by **DE 4,318,885** in light of **Webster's II New Riverside University Dictionary**.

The DE reference teaches a method of treating radioactive or radioactively contaminated material. The material is provided with an inorganic coating by spraying the material with an aqueous silicate solution. The coating prevents release of radioactive particles or dust into the environment and prevents access of air to the material surface to reduce corrosion and consequent dust or aerosol formation.

Although the DE reference does not specifically recite generating an aerosol of the solution, it appears that the spraying step in the method of the DE reference would generate an aerosol because according to Webster's II New Riverside University Dictionary:

spraying discharges a fine jet of liquid from a pressurized container such as an atomizer;

an atomizer is a device that produces a fine spray; and

an aerosol is a gaseous suspension of fine particles.

Hence, it is within the skill of the art to expect that spraying will produce an aerosol absent evidence to the contrary.

***Claim Rejections - 35 USC §102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that



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form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **32-33, 35 and 39** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **DE 4,318,885** in light of **Webster's II New Riverside University Dictionary**.

The DE reference is as applied above and incorporated herein.

Although the DE reference does not specifically recite the step of supplying the solution to a reservoir, the aqueous silicate solution of the DE reference is a prepared solution. It is within the skill of the art to expect that the prepared solution is contained or stored in a reservoir until ready for use and reservoirs are known in the art to collect and store liquids or solutions for future use (Webster's II New Riverside University Dictionary).

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***Allowable Subject Matter***

Claims **12-15** define over the prior art of record because the prior art does not teach or suggest the method of claim 11 wherein the step of generating an aerosol further comprises the step of subjecting the capture liquid to ultrasonic waves.

Claims **16-19** define over the prior art of record because the prior art does not teach or suggest the method of claim 11 further comprising the step of venting a portion of the aerosol from the process area.

Claim **21** defines over the prior art of record because the prior art does not teach or suggest the method of claim 20 further comprising the step of removing the encapsulated particulates from the surfaces of the process area.

Claim **23** defines over the prior art of record because the prior art does not teach or suggest the method of claim 20 further comprising the step of scraping the encapsulated particulates from the surfaces of the process area.

Claim **24** defines over the prior art of record because the prior art does not teach or suggest the method of claim 11 further comprising the step of wiping the encapsulated particulates from the surfaces of the process area.

Claim **25** defines over the prior art of record because the prior art does not teach or suggest the method of claim 11 further comprising the step of selecting a capture liquid that hardens to the surfaces of the process area by oxidation.

Claim **28** defines over the prior art of record because the prior art does not teach

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or suggest the method of claim 11 wherein the particulates are chemically reactive, the method further comprising the step of selecting a capture liquid that neutralize the particulates.

Claim **30** defines over the prior art of record because the prior art does not teach or suggest the method of claim 11 further comprising the step of heating the capture liquid.

Claim **31** defines over the prior art of record because the prior art does not teach or suggest the method of claim 11 further comprising the step of coating the surfaces of the process area with a resinous material after the particulates have been encapsulated and adhered to the surfaces of the process area.

Claim **34** defines over the prior art of record because the prior art does not teach or suggest the method of claim 32 in which the space is occupied by air and the supplying step supplies a liquid that hardens by oxidation after exposure to the air in the space.

Claim **36** defines over the prior art of record because the prior art does not teach or suggest the method of claim 32 in which the atomizing step comprises subjecting the liquid in the reservoir to ultrasonic waves.

Claim **37** defines over the prior art of record because the prior art does not teach or suggest the method of claim 32 in which the atomizing step comprises subjecting the liquid in the reservoir to ultrasonic waves in a frequency range of 1KHz to 2.3 MHZ.

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Claim **38** defines over the prior art of record because the prior art does not teach or suggest the method of claim 32 in which the atomizing step comprises subjecting the liquid in the reservoir to ultrasonic waves having characteristics that atomize the liquid into droplets having a mean size of about 2 microns.

Claim **40** defines over the prior art of record because the prior art does not teach or suggest the method of claim 32 additionally comprising the step of heating the liquid in the reservoir.

Claim **41** defines over the prior art of record because the prior art does not teach or suggest the method of claim 32 additionally comprising the step of mixing water vapor with the atomized liquid to control its humidity.

Claim **42** defines over the prior art of record because the prior art does not teach or suggest the method of claim 32 additionally comprising the step of coating the walls with a resinous material after the encapsulated particles adhere to the walls.

Claim **43** defines over the prior art of record because the prior art does not teach or suggest the method of claim 33 additionally comprising the step of scraping the hardened liquid from the walls after it adheres thereto to remove the encapsulated particles with the hardened liquid.

Claim **44** defines over the prior art of record because the prior art does not teach or suggest the method of claim 32 in which the atomizing step comprises placing an ultrasonic transducer in the reservoir below the surface of the liquid such that ultrasonic

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waves emitted by the transducer is focused at the surface.

### ***Citations***


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

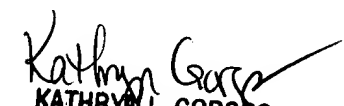
**JP 4-63169** is cited to teach condensing the vapor of a solvent of an aerosol on a surface into drops where fine particles are absorbed in the drops.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (703) 308-3818.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathryn Gorgos, can be reached on (703) 308-3328. The fax phone number for this Group is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

  
February 13, 1998

  
KATHRYN L. GORGOS  
SUPERVISORY PATENT EXAMINER  
GROUP-1100